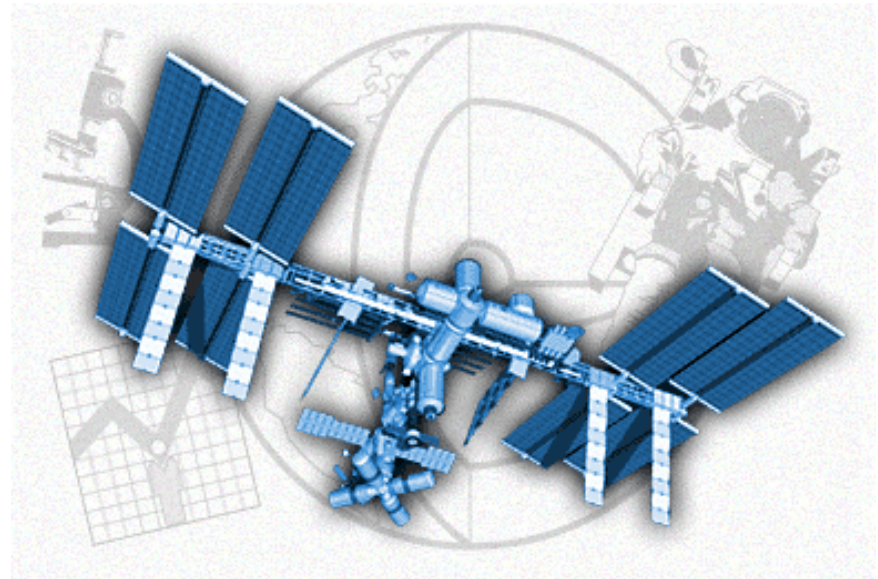




Constellation Services International, Inc.

Applying Commercial
Business Approaches
to
Just Another Place



U.S. Dept of Comm workshop, "Market Opportunities in Space" , Nov. 7, 2001, Wash.,
D.C.

What is CSI?

- Early-stage “Orbital Services” Company
 - Nearly \$1 million private financing raised to date
- Initial Focus: Cargo Market in LEO
 - International Space Station
 - A Billion-dollar Annual Market
 - Many Nascent Commercial Opportunities
- Business Approach
 - Apply Model of “Standardized Containers”

A Proven Approach

A Model that Dominates Earth-based Cargo

Shipping



Air Freight



Personal Storage



***Standardized Cargo Containers
Enable Transportation Flexibility & Efficiency***

Current ISS Cargo Market

- Supplies Needed at ISS:
 - ~ 40,000 kilograms per year
 - Food, air, water, clothing, equipment, ...
- Cost of Existing Cargo Supply Methods
 - U.S. Space Shuttle: \$50,000 per kilogram
 - Russian Progress: \$20,000 per kilogram
- Annual U.S. Cost to Deliver ISS Cargo:
>\$1 Billion per Year

CSI's Solution

- Flight-Proven Off-the-Shelf Technology
- Time to Market:
 - ~ 2 years from Decision to Proceed
- NASA Study Contract Recently Approved
- Patent Pending on Method
- Total Private Financing Required:
 - Less than \$10 million

Commerce at ISS?

- ISS Cargo Supply Supports Other Markets
- ***Emerging*** Commercial Uses
 - Satellite Assembly (e.g. SkyCorp)
 - Tourism (Dennis Tito, Mark Shuttleworth)
 - Media (James Cameron, CNN, *Survivor* at ISS)
 - Advertising (RadioShack, PizzaHut, Coke)
 - R&D
 - Pharmaceuticals, Materials, Semiconductors, ...

A Future Market

MirCorp's "MiniStation One"

- Based on Existing Spacecraft
- To serve "Space Tourism" market
- American Entrepreneurs : Amsterdam Company
- Requires:
 - Food
 - Air
 - Water
 - Dry Goods



- Market Issues are Primary
 - Demand-side Issues
 - Create the Investment Challenges in Industry
 - Market Size Barrier
 - Potential for Huge Size in Long-term
 - Often Blocked by Small Size in Near-term
 - Govt. Customer Demand is often Uncertain
 - Will the “Dog Eat the Dog Food” & How?
- Supply of Private Investment Capital
- Regulatory

- To Accelerate Market Development By:
 - Being a (Better) Customer
 - Being a (Better) Regulator
 - Encouraging Private Investment
 - Acting as an Economic Stimulator
 - Being a Promoter/Facilitator
 - Encouraging Industry Standards
 - Being a Source of Applicable Technology

How Can DoC Help?

U.S. Dept. of Commerce has Important Role

- Already Does Many Things for Terrestrial Commerce
- Why Not for Space?

DoC is Natural Home for this New Industry

- Other Agencies have Conflicting Priorities
- Success will Bring Strategic Benefit to Nation

Some DoC Ideas

- Create “Commercial Best Practices” Procurement Mech.
 - For U.S. Govt’s need for Space Goods and Services
- Collect/Analyze/Report on Current/New Markets
- Educate & Connect Private and Public Stakeholders
- Be this New Industry’s Advocate
 - in Federal Regulatory and Policy-making Processes
- Create/Advocate Market-based Investment Stimulus
 - An EDA for Space
 - Look to Proven Private Investment Models
 - Why are they not Playing a Bigger Role?
 - Can U.S. Government Incentivize (“Jump Start”) their Action?

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